City of Newton Wastewater Treatment System
Performance Annual Report for 2007
February 18, 2008

I. General Information

Facility Name: City of Newton Sanitary Sewer Collection System

Contact Person: Blane R. Champion, Collection and Distribution Superintendent
PO Box 550
Newton, NC 28658
(828) 695-4298

Applicable Permits: Wastewater Collection System Permit Number-WQCS00044

ALSO

Facility Name: City of Newton, Clark Creek Wastewater Treatment Plant

Contact Person: Danny Sigmon, WWTP Superintendent
PO Box 550
Newton, NC 28658
(828) 695-4346

Applicable Permits: National Pollutant Discharge Elimination System (NPDES) Permit Number - NC0036196
Land Application (Non-Discharge) Permit Number - WQ0003902

The City of Newton views environmental protection as one of our top priorities. For this reason, the City actively participates in the collection, treatment and disposition of sewage generated within its boundaries.

Description of system

Wastewater (sewage), discharged by customers, flows to the city owned and operated Clark Creek Wastewater Treatment Plant through a sanitary sewer system encompassing approximately 123.4 miles of sanitary sewer lines. Of these lines, approximately 6.9 miles are force mains with the remaining 116.5 being gravity lines. These numbers reflect the addition of the new sewer lines for the Balls Creek Elementary School area. There are 1.5 miles of force main and 2.9 miles of gravity sewer. The force mains of piping ranging in size from 6” to 12” and the gravity lines consist of piping ranging in

size from 6” to 36”. With the addition of the Balls Creek sewer extension came one additional sewer pump station at address 3201 Mount Olive Church Road. The City of Newton operates and maintains 7 sewer lift stations within the sewer collection system. During the year 2007, maintenance visited all lift stations at a minimum of once a week. The pump maintenance crew performed scheduled preventative maintenance and made all necessary repairs as needed to keep lift stations operating at peak performance.

Upon arrival at the treatment plant all wastewater is treated and discharged in an environmentally safe manner in accordance with National Pollutant Discharge Elimination System (NPDES) regulations.

Clark Creek Wastewater Treatment Plant, completed in 1979, upgraded in 1992 and 2005, currently operates under a 5.0 million gallons of wastewater per day (MGD) NPDES permit. Homes, businesses, and industries discharge their wastewater (sewage) into the sanitary sewer system. Once the wastewater is discharged into the pipes it travels through the collection system until it reaches the Wastewater Treatment Plant. The system is composed of a complicated network of pumps, manholes, standby generators and over six hundred thousand (651,000) feet of pipe. The Wastewater Treatment Plant is staffed and operated 24 hours per day, 365 days a year. City of Newton Public Works and Utilities staff includes 14 State Certified Operators, including five employees that hold the highest certification obtainable in North Carolina for Wastewater Treatment Operators. The Environmental Protection Agency has recognized the Clark Creek WWTP for Operation and Maintenance Excellence.

II. Performance

Yearly Performance:

During the past 12 months, we have cleaned 77,613 feet of sewer lines. This equals to 14.7 miles, which represents about 12.6 percent of our collection system. Aerial and high priority lines were inspected in June, November, and again in December. All lines and right of ways not visible to the general public were inspected and bush-hogged between April and October.

Capital Improvement Projects:

The City of Newton continued to work on the schedule set forth by the Sanitary Sewer System Evaluation Study from W K Dickson. From this study we replaced 6 manholes and 42 manhole rings and covers. We also eliminated 4 of the old flush valve type manholes. As part of our permitting requirements, we have replaced 2 of the PVC aerials with ductile iron pipe. These were numbered 53 and 97 on the Aerial and High Priority List. The City of Newton has also bought the materials to replace 3 more of the PVC aerials in the second half of our budget year, January to June 2008.

Sanitary Sewer Overflows:

4-30-07: 305 W. F. Street: Debris of rags and paper towels caused a spill of 2505 gallons sewage. Of the 2505 gallons sewage, 2250 gallons reached the waters of the state. (Town Creek)

7-2-07: Burris Road Pump Station Force Main: The 12" C900 PVC FM split causing a 12,000 gallon spill of which entered waters of the state. (McLin Creek)

7-5-07: 252 Oakland Circle: Grease caused a one hundred gallon spill with 50 gallons entering waters of the state. (Clark Creek-Shooks Lake)

8-28-07: Burris Road Pump Station Force Main: The 12" C900 PVC FM split causing a 36,000 gallon spill with 4,000 gallons entering waters of the state. (McLin Creek)

9-5-07: P Street Right-of-Way: Debris of rags and paper towels caused a spill of 2,505 gallons of sewage. Of that spill, 2,250 gallons entered waters of the state. (Smyre Creek)

9-19-07: Burris Road Pump Station Force Main: The C900 PVC force main split causing a 1,200 gallon spill of which 1000 gallons entered waters of the state. (McLin Creek)

11-7-07: Burris Road Pump Station Force Main: The C900 force main split causing a 4,300 gallon spill of which 1,076 gallons reaching waters of the state. (McLin Creek)

During the year 2007, the City of Newton received 2 Notice of Violations for the force main breaks at the Burris Road Pump Station Force Main. After the first 2 breaks, we installed 2 Cushioned Swing Check Valves at the pump station. We thought that the water hammer was the cause of the problem. After these check valves were installed, we encountered 2 more breaks. For these breaks, we received the 2 Notice of Violations. Construction to replace the C900 PVC pipe with ductile iron pipe was scheduled to begin in February.

In 2007, the City of Newton effectively treated five hundred seventy three million seven hundred twenty two thousand (573,722,000) gallons of wastewater. During this time the City of Newton wastewater collection system experienced seven (7) overflows. The amount of these overflows to reach surface waters was less than 0.0039% of the amount of wastewater collected and treated for 2007. No overflows resulted in a fish kill or other negative environmental impact.

The Clark Creek WWTP average daily flow for 2007 was 1.56 MGD. To ensure compliance with all Federal and State laws regarding the safe treatment of wastewater, the City of Newton appropriates more than one million four hundred thousand dollars ($1,400,000.00) per year towards operating and maintaining its wastewater treatment plant. The City of Newton Clark Creek Wastewater Treatment Plant was issued two Notices of Violation pertaining to the National Pollutant Discharge Elimination System (NPDES) Permit NC0036196 for the year of 2007. The City of Newton has met with the North Carolina Department of Environment and Natural Resources and strongly disagrees with the cyanide limits violations issued by the Division based on documented split sampling results.

A narrative report of the seven pump stations is as follows:

Burris Road Pump Station (PS): This pump station is inspected twice a day, 7 days a week by the WWTP staff and is remotely monitored by radio telemetry at the WWTP. There is an emergency power generator on site. This pump station received a major refitting in 2005 including new pumps, motors, controls, and bar screen.

Walnut Creek PS: This pump station is inspected once a day, 7 days a week by the WWTP staff, is monitored remotely by radio telemetry at the WWTP and has an emergency power generator on site.

West Side PS: This pump station is inspected three times a week by the WWTP staff and is monitored remotely by radio telemetry at the WWTP. There is an emergency power generator on this site.

HWY#10/Southfork PS: This pump station is inspected once a week by the WWTP staff. Currently there is no flow to this site. This location is equipped with a dial-up system to the WWTP for remote notification of any PS failures and has an emergency power generator on site.

Startown School PS: This pump station is inspected once a week by the WWTP staff. This location is equipped with a dial-up system to the WWTP for remote notification of any PS failures. The pumps at this location were upgraded in 2005 from 3.5 hp to 5.0 hp to reduce frequent clean-out. A portable emergency power generator was purchased in 2006 for this location.

Balls Creek PS: This facility was added during 2007. This facility is inspected once a week by the WWTP staff. This location is equipped with a dial-up system to the WWTP for remote notification of any PS failures and has an emergency power generator on site.

Gregory Wood Products PS: This facility was added during 2007. This facility is inspected twice a week by the WWTP staff. This location is equipped with a dial-up system to the WWTP for remote notification of any PS failures and has an emergency power generator on site.

Aerial and High Priority Lines 2007

Location	Manhole	Size	Material	Footage	Type
E P ST ROW	2481-2482	8	DI	20	AERIAL
E P ST ROW	1217-2472	15	DI	40	AERIAL
E P ST ROW	1218-1221	15	DI	40	AERIAL
E P ST ROW	1101-1103	12	STEEL	50	AERIAL
CLOVER LANE	1117-1119	10	CI	20	AERIAL
CLOVER LANE	1117-1118	15	CI	20	AERIAL
WESTSIDE DR	2279-2283	18	DI	12	AERIAL
WESTSIDE DR	2280-2281	18	DI	30	AERIAL

OAK ST	2215-2216	18	CI	30	AERIAL
HAMILTON ST	2264-2266		CLAY		PARALLEL
W C ST	2262-2263	12	CI	40	AERIAL
RIDGE DR	880-881	12	PVC	40	AERIAL
W I ST	1869-1871	12	PVC	40	AERIAL
CHERRY LN	1178-1505	8	PVC	100	AERIAL
CHERRY LN	1177-1178	12	PVC	40	AERIAL
SW BLVD	451-1177	12	PVC		PARALLEL
RADIO STATION RD	2251-2254	18	DI	25	AERIAL
SHANNONBROOK DR	885-856	12	DI	80	AERIAL
1ST	2242-2245	18	DI	30	AERIAL
6TH	835-836	8	DI	100	AERIAL
7TH	795-796	8	CI	30	AERIAL
9TH	491-101	6	PVC	100	AERIAL
WESTBROOK DR	1712-1836	8	CI	35	AERIAL
LAFFON RD SOUTH	2223-2224	12	DI	25	AERIAL
LAFFON RD NORTH	1974-2222	12	DI	20	AERIAL
20TH ST	575-912	8	DI	40	AERIAL
27TH ST	228-1136	8	DI	30	AERIAL
HWY # 10	1503-1535	12	DI	40	AERIAL
HWY # 10	1889-1890	24	DI	20	AERIAL
HWY # 10 TO STARTOWN	1887-1888	24	DI	20	AERIAL
HWY #10 STARTOWN	1879-1880	12	DI	40	AERIAL
HWY # 10 TO STARTOWN	1878-1879	12	DI	25	AERIAL
HWY # 10 TO STARTOWN	1873-1874	12	DI	20	AERIAL
HWY # 10 TO STARTOWN	1868-1869	12	PVC	30	AERIAL
STARTOWN RD	1558-1559	12	DI	30	AERIAL
TOUCHTONE CIR	406-1113	8	DI	20	AERIAL
WALNUT CREEK PS	1125-1126	8	DI	20	AERIAL
WALNUT CREEK PS	FORCEMAIN	6	DI	20	AERIAL
STARTOWN RD TO SETTLEMYER RD	1447-1448	24	DI	20	AERIAL
SETTLEMYER RD TO COMPOST PLANT	1417-1936	15	DI	40	AERIAL
SETTLEMYER RD TO COMPOST PLANT	1418-1937	12	DI	40	AERIAL
PETCO LINE	1439-1440	15	DI	30	AERIAL
PETCO LINE	1437-1438	15	DI	20	AERIAL
PETCO LINE	1436-1437	15	PVC	20	AERIAL
PETCO LINE	1430-1431	15	PVC	20	AERIAL
PETCO LINE	1835-1836	8	DI	30	AERIAL
PETCO LINE	1426-1441	8	DI	40	AERIAL
PETCO LINE	1424-1425	15	PVC	20	AERIAL
HUEY DR	2303-2304	12	DI	20	AERIAL
E HERMAN ST	1400-1664	15	CI	40	AERIAL
OVERLOOK DR	1329-1330	8	DI	40	AERIAL
E H ST	1326-1327	15	DI	20	AERIAL
E L ST	1658-1659	8	PVC	20	AERIAL
E A ST	326-1084	12	CI	40	AERIAL
MCDANIEL CIR	747-1665	8	DI	25	AERIAL

E 1ST ST	428-431	8	DI	70	AERIAL
E 1ST ST	430-1250	15	CI	20	AERIAL
E 1ST ST	453-454	8	PVC	50	AERIAL
E 11TH ST	260-261	12	PVC	20	AERIAL
BROOKSHIRE DR	1989-1990	8	DI	40	AERIAL
HWY #10 E	2013-2014	12	DI	20	AERIAL
HWY # 10 TO MOUNT OLIVE	1999-2000	12	DI	20	AERIAL
MOUNT OLIVE MANOR	2094-2095	12	DI	20	AERIAL
NELSON DR	1997-2002	8	DI	90	AERIAL
SPENCER ST	1995-2003	8	DI	20	AERIAL
MOUNT OLIVE TO BURRIS RD	FORCEMAIN	8	DI	30	AERIAL
MOUNT OLIVE TO BURRIS RD	FORCEMAIN	12	DI	20	AERIAL
MOUNT OLIVE TO BURRIS RD	FORCEMAIN	8	DI	30	AERIAL
MOUNT OLIVE TO BURRIS RD	FORCEMAIN	12	DI	30	AERIAL
MAYFAIR DR	2410-2411	8	DI	30	AERIAL
ROWE DR	2267-2269	8	DI	20	AERIAL
BURRIS RD TO ANN AVE	1152-2272	8	DI	30	AERIAL
THOMAS DR	1146-2241	8	DI	15	AERIAL
20TH ST	1241-2430	12	DI	20	AERIAL
HWY #10 W	2897-2898	8	DI	30	AERIAL
LAKEWOOD DR	1752-2283	8	DI	30	AERIAL
MEADOWBROOK DR	1719-2281	8	PVC	40	AERIAL
SW BLVD	1737-1738	18	DI	40	AERIAL
SOUTHSIDE PARK	1651-1616	24	DI	50	AERIAL
SOUTHSIDE PARK	1618-1619	24	DI	50	AERIAL
SOUTHSIDE PARK TO MCKAY RD	1620-1621	24	DI	40	AERIAL
SOUTHSIDE PARK TO MCKAY RD	1624-0625	15	STEEL	60	AERIAL
SOUTHSIDE PARK TO MCKAY RD	1629-1630	36	DI	50	AERIAL
SOUTHSIDE PARK TO MCKAY RD	1634-1635	30	STEEL	60	AERIAL
E L ST	820-1671	10	CI	90	AERIAL
E L ST	820-1671	18	CI	90	AERIAL
E K ST NEAR CREEK	822-1272	24	CLAY	50	AERIAL
E K ST	819-820	10	CI	100	AERIAL
E J ST	821-822	24	CI	20	AERIAL
E J ST NEAR CREEK	763-764	24	CLAY	100	AERIAL
E I ST NEAR CREEK	1400-1401	24	CLAY	80	AERIAL
POWERLINE AVE	931-1186	8	CI	280	AERIAL
N ST ROW	1274-1275	24	CI	20	AERIAL
N ST ROW	1273-1721	24	CI	40	AERIAL
E K ST	819-820	18	CI	100	AERIAL
BROOKSIDE DR	1720-22/0	8	PVC	40	AERIAL

III. Notification

The City will notify the users of the wastewater system of this report by way of the City Newsletter, the City Website, and by announcement at a City of Newton Council meeting on April 1, 2008.

IV. General Information

The City of Newton is responsible for maintaining unobstructed wastewater flow in the City-owned sewer system. The line that connects a house or building to the City sewer system is called a service lateral. The property owner is responsible for maintaining the service lateral. If a blockage occurs causing a sewer backup, the city encourages residents to call the city so a crew can verify which part of the line is obstructed. A city crew will check the main line and clear the line if necessary. If the main line is clear, the property owner will be notified of the need to call a plumber to clear the service lateral. Occasionally there are blockages in service laterals that extend into the utility right-of-way. When this occurs the City will check and clean the line to the "clean-out" if requested. However, the property owner is ultimately responsible for the entire length of the service lateral.

Why do sewer lines block?

Many things can become lodged in a sewer line causing a backup; e.g. sticks, rocks, bricks, pieces of broken pipe, string, rags, GREASE, paper towels, newspapers, sanitary napkins, plastics, etc. Many blockages occur as a result of tree roots growing into sewer pipes. Roots collect grease and animal fat poured down drains. Over time, this collection of debris can cause an obstruction. You can help prevent sewer backups in your home and protect the environment if you adhere to the following advice: (1) Never flush or put anything down a toilet or drain that would clog a sewer line, (2) do not wash grease down a drain and (3) report any sewer overflow immediately.

It is a good idea to collect grease in a can or jar and put it in the refrigerator. When the container is full, and it solidifies, dispose of it with the household garbage.

The City of Newton has a Grease Trap Policy and a Standard Operating Procedure for controlling grease discharge from commercial establishments.

What is a "Backwater Valve" and do I need one?

A backwater valve is a relatively inexpensive item that can be installed on your plumbing system that will help prevent sewer back-ups and overflows that could occur on your property or in your home. The N.C. Plumbing Code requires that a “backwater valve” be installed in all structures if they have a plumbing fixture that has a “flood rim elevation” below the next upstream city sewer manhole. City residents can avoid sewer back-ups by installing this backwater valve, which is designed to prevent a sewer back-up in the customer’s plumbing caused by a blockage in the city’s sewer system. The valve allows sewage to leave the residence or business, but does not allow sewage to flow back into the property. (The flood rim elevation is the level at which a fixture, such as a toilet or sink, will overflow) It is possible that some local homes or businesses that have fixtures with flood rim elevations below the next upstream sewer manhole may not have the backwater valve installed. Any structure with plumbing fixtures below the next upstream sewer manhole is at risk of sewage backing up into the structure. Structures with plumbing fixtures in basements are more likely to need the valve installed. Residents are advised that the city is not responsible for damages caused by a sewer back-up on private property if the required backwater valve has not been installed.

For more information or to determine if your home needs a backwater valve, contact Blane Champion at 695-4298.

Questions?

Should you have any questions regarding the treatment of wastewater in your community or need to report a sewer problem, please feel free to call the City of Newton Public Works and Utilities Department at 828 695-4310. To report a sewer problem after 5:00 PM or on weekends, call 695-4306

V. Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report will be made available to the users of the system as stated in the report. An announcement of the availability of the report is scheduled to be made at a regularly scheduled City Council Meeting held on April 1, 2008.

_____ _____

Danny Sigmon Date
City of Newton
WWTP Superintendent